

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A disk drive comprising:
a head which reads/writes data from/to a disk medium that rotates;
an actuator which includes the head and rotates in a radial direction of the disk medium to move the head to a target point; and
a controller which controls the actuator to position the head in the target point in accordance with servo data read from the disk medium by the head,
wherein the disk medium includes a number of data tracks having servo areas and data areas and, ~~when the head records data on the data areas in one of outer and inner radiuses of the disk medium, the servo data whose inclination differs from that of the data is recorded~~ being pre-recorded on the servo areas in one of the outer and inner ~~radiuses~~ radii of the disk medium by a servo head ~~which sets of a servo track writer with a skew angle that is different from a skew angle of the head, and the such that an~~ inclination of the servo data ~~becomes~~ is smaller than that of the data recorded on the data areas of said one of outer and inner radii by the head.

2. (Currently Amended) A disk drive comprising:
a head which reads/writes data from/to a disk medium that rotates;
an actuator which includes the head and rotates in a radial direction of the disk medium to move the head to a target point; and
a controller which controls the actuator to position the head in the target point in accordance with servo data read from the disk medium by the head,
wherein the disk medium includes a number of data tracks having servo areas and data areas and, when the head records data on the data areas in one of outer and inner ~~radiuses~~ radii of the disk medium, the servo data whose inclination differs from that of the data is ~~recorded~~ pre-recorded on the servo areas in one of the outer and inner ~~radiuses~~ radii by a servo track writer and the servo data whose inclination is almost equal to that of the data recorded on the data areas is ~~recorded~~ pre-recorded on the servo areas in the data tracks included in an intermediate radius of the disk medium by the servo track writer.

3. (Currently Amended) A disk drive comprising:
a head which reads/writes data from/to a disk medium that rotates;
an actuator which includes the head and rotates in a radial direction of the disk medium to move the head to a target point; and
a controller which controls the actuator to position the head in the target point in accordance with servo data read from the disk medium by the head,
wherein the disk medium includes a number of data tracks having servo areas and data areas and, when the head records data on the data areas in one of outer and inner ~~radiuses~~ radii of the disk medium, the servo data whose inclination differs from that of the data is ~~recorded~~ pre-recorded on the servo areas in one of the outer and inner ~~radiuses~~ radii by a servo track writer and the servo data whose inclination is 0 degrees and almost equal to that of the data recorded on the data areas is ~~recorded~~ pre-recorded on the servo areas in the data tracks included in an intermediate radius of the disk medium by the servo track writer, and the servo data whose inclination is smaller than that of the data recorded on the data areas is ~~recorded~~ pre-recorded on the servo areas in the data tracks included in the outer radius by the servo track writer.

4. (Currently Amended) A disk drive comprising:
a head which reads/writes data from/to a disk medium that rotates;
an actuator which includes the head and rotates in a radial direction of the disk medium to move the head to a target point; and
a controller which controls the actuator to position the head in the target point in accordance with servo data read from the disk medium by the head,
wherein the disk medium includes a number of data tracks having servo areas and data areas and, when the head records data on the data areas in one of outer and inner ~~radiuses~~ radii of the disk medium, the servo data whose inclination differs from that of the data is ~~recorded~~ pre-recorded on the servo areas in one of the outer and inner ~~radiuses~~ radii by a servo track writer and the servo data whose inclination is 0 degrees and almost equal to that of the data recorded on the data areas is ~~recorded~~ pre-recorded on the servo areas in the data tracks included in an intermediate radius of the disk medium by the servo track writer, and the servo data whose inclination is smaller than that of the data ~~recorded~~ pre-recorded on the data areas is recorded on the servo areas in the data tracks included in the inner radius by the servo track writer.

5. (Cancelled).

6. (Original) The disk drive according to claim 1, which is a perpendicular magnetic recording type disk drive having a single pole type head as a write head.

7. (Cancelled).

8. (Currently Amended) A servo write method that is applied to a disk drive including a head which reads/writes data from/to a disk medium that rotates and an actuator which moves the head to a target point, the method comprising:

using a servo head whose skew angle θ_2 differs from a skew angle θ_1 of the head, the servo head being provided in a servo track writer; and

recording servo data to position the head on servo areas by the servo head in each of data tracks of the disk medium at an inclination different from that of data recorded on data areas by the head with the skew angle θ_1 ,

wherein the servo data whose inclination is 0 degrees and almost equal to that of the data recorded on the data areas is recorded on the servo areas in an intermediate radius of the disk medium ~~by the servo head~~, and the servo data whose inclination is smaller than that of the data recorded on the data areas is recorded on the servo areas in an outer radius of the disk medium ~~by the servo head~~.

9. (Currently Amended) A servo write method that is applied to a disk drive including a head which reads/writes data from/to a disk medium that rotates and an actuator which moves the head to a target point, the method comprising:

using a servo head whose skew angle θ_2 differs from a skew angle θ_1 of the head, the servo head being provided in a servo track writer; and

recording servo data to position the head on servo areas by the servo head in each of data tracks of the disk medium at an inclination different from that of data recorded on data areas by the head with the skew angle θ_1 ,

wherein the servo data whose inclination is 0 degrees and almost equal to that of the data recorded on the data areas is recorded on the servo areas in an intermediate radius of the disk medium ~~by the servo head~~, and the servo data whose inclination is smaller than that of the data recorded on the data areas is recorded on the servo areas in an inner radius of the disk medium ~~by the servo head~~.

10. (Cancelled).

11. (Currently Amended) A servo write method that is applied to a disk drive including a head which reads/writes data from/to a disk medium that rotates and an actuator which moves the head to a target point, the method comprising:

using a servo head whose skew angle $\theta 2$ differs from a skew angle $\theta 1$ of the head, the servo head being provided in a servo track writer; and

recording servo data to position the head on servo areas by the servo head in each of data tracks of the disk medium at an inclination different from that of data recorded on data areas by the head with the skew angle $\theta 1$

wherein the servo head is provided in a servo track writer that is a device exclusively to record the servo data on the disk medium, and the servo track writer has a servo head which sets the skew angle $\theta 2$ different from the skew angle $\theta 1$ of the head, and the servo track writer uses a servo head having a relatively small skew angle $\theta 2$ which differs from the skew angle $\theta 1$ of the head of the disk drive, writes servo data while moving the servo head from an innermost radius to an intermediate radius of the disk medium and then from the intermediate radius to an outermost radius thereof, and performs a servo write operation such that an inclination of the servo data corresponding to the skew angle $\theta 2$ of the servo head ~~becomes~~ is smaller than that of user data corresponding to the skew angle $\theta 1$ of the head.

12. (Previously Presented) The method according to claim 8, wherein the disk drive is a perpendicular magnetic recording type disk drive having a single pole type head as a write head.

13. (Previously Presented) The disk drive according to claim 2, which is a perpendicular magnetic recording type disk drive having a single pole type head as a write head.

14. (New) The disk drive according to claim 1, wherein:
the servo head follows a trail different from that of the head;
the skew angle of the servo head in the inner radius is smaller than that of the head when the servo head moves from the outer radius to the inner radius of the disk medium, and

the skew angle of the servo head in the outer radius is smaller than that of the head when the servo head moves from the inner radius to the outer radius of the disk medium.